from October 24, 1997 up to and including January 24, 1998, and have paid the requisite fee [37 C.F.R. §§ 1.136(a), 1.17].

Kindly amend the application as follows:

IN THE CLAIMS

Kindly amend the claims as follows:

16. (Twice amended) An HLA-DR typing process comprising the steps of:

(a) restricting DNA isolated from an individual to be typed with at least one restriction endonuclease;

(b) size fractionating the restricted DNA;

(c) hybridizing the size-fractionated DNA to a DNA sequence of any one of claims 23-24 and 34-39; [and]

(d) detecting [the areas of] hybridization between said DNA and said DNA sequence; and

(e) comparing said hybridization to hybridization between DNA of known HLA-DR type and said DNA sequence.

17. (Twice amended) The process of claim 16 or 44, wherein a [^{32}P-]labelled DNA sequence is employed for hybridization and its [radioactive] label is used for detecting hybridization between said DNA and said DNA sequence.

23. (Twice amended) An isolated DNA sequence encoding a portion of at least one β-chain antigen of the

HLA-DR locus of the human lymphocyte antigen complex, said DNA sequence being selected from the group consisting of:

(a) the DNA sequences of DR-β-A, DR-β-B and DR-β-C;[,] Are these defined?

(b) the expressed portion of the DNA sequences of DR-β-A, DR-β-B and DR-β-C;[,] defined

(c) DNA sequences that specifically hybridize [under high criterium] to any of the foregoing sequences;[,] (means bigger than) N.M

(d) DNA sequences that, upon expression, code for a portion of a polypeptide encoded by any one of the foregoing DNA sequences, said portion comprising a region of mismatch between any two of the foregoing DNA sequences, and which specifically hybridize [under high criterium] thereto;[,] and

(e) DNA sequences which[, as a result of the genetic code are degenerate to] differ from any of the foregoing DNA sequences in codon sequence due to the degeneracy of the genetic code.

C 2 cont

24. (Twice amended) The DNA sequence of claim 23, wherein said DNA sequence [(b)] (c) which specifically hybridizes to said DNA sequence (a) or (b) is selected from the group consisting of:

(f) the DNA sequence of DR-β-D;[,]

(g) DNA sequences which specifically hybridize [under high criterium] to the DNA sequence of DR-β-D;[,]

(h) DNA sequences that, upon expression, code for a portion of a polypeptide encoded by the DNA sequence of DR-β-D, said portion comprising a region of mismatch between said DNA sequence and any one of the DNA sequences of DR-β-A, DR-β-B and DR-β-C;[,] and

(i) DNA sequences which[, as a result of the genetic code are degenerate to] differ from any of the foregoing DNA sequences in codon sequence due to the degeneracy of the genetic code.

C2 Cont.

30. (Twice amended) The HLA-DR typing process of claim 16 or 44, further comprising the step of hybridizing said [the size-fractionated] DNA to a hybridization control, said hybridization control being a 19-mer of the formula GCTTCGACAGCGACGTGGG.

C3 Cont.

31. (Twice amended) An isolated DNA sequence which specifically hybridizes to an HLA DR-β-chain locus, said DNA sequence being capable of specifically hybridizing to a polymorphic region of said locus to allow determination of one or more HLA alleles for use in HLA DR-β typing, said polymorphic region being encoded by DNA selected from the group consisting of:

(a) DNA sequences encoding amino acids 8-14 of said locus;

(b) DNA sequences encoding amino acids 26-32 of said locus;

(c) DNA sequences encoding amino acids 72-78 of said locus;

(d) portions of any one of the foregoing DNA sequences which are capable of specifically hybridizing to said polymorphic region;

(e) DNA sequences which are fully complementary to any of the foregoing DNA sequences; and

(f) DNA sequences which[, as a result of the genetic code are degenerate to] <u>differ from</u> any of the foregoing DNA sequences <u>in codon sequence due to the degeneracy of the genetic code</u>.

C3 cont

32. (Twice amended) An isolated DNA sequence which specifically hybridizes to an HLA Class II β-chain locus, said DNA sequence being capable of specifically hybridizing to a polymorphic region of said locus to allow determination of one or more HLA alleles for use in HLA β typing, said polymorphic region being encoded by DNA selected from the group consisting of:

(a) DNA sequences encoding amino acids 8-14 of said locus;

(b) DNA sequences encoding amino acids 26-32 of said locus;

(c) DNA sequences encoding amino acids 72-78 of said locus;

(d) portions of any one of the foregoing DNA sequences which are capable of specifically hybridizing to said polymorphic region;

(e) DNA sequences which are fully complementary to any of the foregoing DNA sequences; and

(f) DNA sequences which[, as a result of the genetic code are degenerate to] <u>differ from</u> any of the foregoing DNA sequences <u>in codon sequence due to the degeneracy of the genetic code</u>.

C3 cont.

33. (Twice amended) A DNA sequence which specifically hybridizes to an HLA DR-β-chain locus, said DNA sequence being capable of specifically hybridizing to a conserved region of said locus to allow determination of one or more HLA alleles for use in HLA typing, said conserved region comprising a DNA sequence selected from the group consisting of:

(a) DNA sequences encoding amino acids 39-45 of said locus;

(b) portions of the foregoing DNA sequences which are capable of specifically hybridizing to said conserved region;

(c) DNA sequences which are fully complementary to any of the foregoing DNA sequences; and

(d) DNA sequences which[, as a result of the genetic code are degenerate to] <u>differ from</u> any of the foregoing DNA sequences <u>in codon sequence due to the degeneracy of the genetic code</u>.

C3 cont.

41. (Amended) An HLA-<u>DR</u> typing process comprising the steps of<u>:</u>

<u>(a)</u> restricting DNA isolated from an individual to be typed with at least one restriction endonuclease;

<u>(b)</u> size fractionating the restricted DNA; [and]

<u>(c)</u> hybridizing the size-fractionated DNA to a DNA sequence according to any one of claims 31-33<u>;</u>

C4

<u>(d) detecting hybridization between said DNA and said DNA sequence; and</u>

<u>(e) comparing said hybridization to hybridization between DNA of known HLA-DR type and said DNA sequence</u>.

42. (Amended) An HLA-DR typing process comprising the steps of<u>:</u>

<u>(a)</u> hybridizing DNA in a sample to be tested to a DNA sequence according to any one of claims 31-33<u>;</u> [and]

<u>(b)</u> detecting [the] hybridization between said DNA and said DNA sequence<u>; and</u>

<u>(c) comparing said hybridization to hybridization between DNA of known HLA-DR type and said DNA sequence</u>.

44. (Amended) An HLA-DR typing process comprising the steps of:

(a) hybridizing DNA in a sample to be tested to a DNA sequence according to any one of claims 23-24 and 34-39; [and]

(b) detecting [the] hybridization between said DNA and said DNA sequence; and

(c) comparing said hybridization to hybridization between DNA of known HLA-DR type and said DNA sequence.

C4 cont.

Add the following claims:

49. A process for detecting HLA DR-β-chain DNA in a sample, comprising the steps of:

(a) hybridizing DNA in said sample to a DNA sequence according to any one of claims 23-24 and 34-39; and

(b) detecting hybridization between said DNA and said DNA sequence.

C5

50. A process for detecting HLA DR-β-chain DNA in a sample, comprising the steps of:

(a) hybridizing DNA in said sample to a DNA sequence according to any one of claims 31-33; and

(b) detecting hybridization between said DNA and said DNA sequence.

Cancel, without prejudice, claims 43, 45 and 48.